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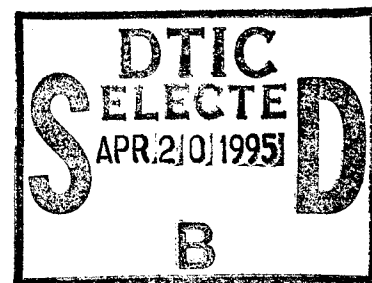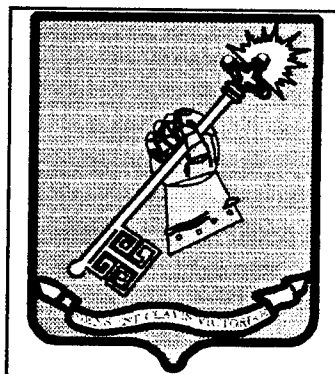
A Monograph
by

Major Stephen C. Duncan
Military Intelligence

School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

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MONOGRAPH APPROVAL

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Approved by:

_____ Monograph Director
LTC Charles D. Franklin, MMAS

_____ Director, School of
COL Gregory Fontenot, MA, MMAS   Advanced Military
                                    Studies

_____ Director, Graduate
Philip J. Brookes, Ph.D.   Degree Program

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ABSTRACT

**Seven Years After - Has Task Force Ground Reconnaissance
Improved Since the Rand Study?**

This monograph examines the effectiveness of major changes made to task force-level reconnaissance as a result of a 1987 Rand Corporation Study. These changes are analyzed by categories established in the original report - doctrine, training, and equipment.

The monograph first examines the methodology and significant findings of the Rand study. The changes made to the doctrine, training, and equipment are then presented to determine the results of the Rand study on ground reconnaissance. Next, current performance of units at the National Training Center is analyzed to determine the effectiveness of reconnaissance since implementation of these changes. Additionally, factors not studied by Rand are examined to provide additional insight into current performance.

Finally, shortcomings identified in recent training center rotations are discussed and possible solutions for task force reconnaissance planning and execution are offered.

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Seven Years After - Has Task Force Ground Reconnaissance Improved Since the Rand Study?

I. <u>INTRODUCTION</u>

Reconnaissance is the primary means available to the task force of collecting information on enemy locations, activities, and intentions. In the offense, it is the operation by which the commander "...aggressively seeks gaps or weaknesses in the enemy's defenses...". [1]

In 1987, the U.S. Army contracted the Rand Corporation to study the conduct of ground reconnaissance by heavy task forces at the National Training Center and the relationship of successful reconnaissance to accomplishment of battalion task force offensive missions. This study would influence thinking and change in task force ground reconnaissance over the next several years.

The Rand Study affirmed the notion that mechanized and armored task forces typically failed in their reconnaissance efforts, and that this failure resulted in failure to accomplish the unit's mission. The study recommended that the U.S. Army consider changes in doctrine, training, and equipment of task force level scout organizations to correct problems noted during the study.

Virtually all of the Rand Corporation recommendations have been implemented to some degree since the study and

almost all units training in recent National Training Center rotations reflect those changes. Army doctrine written since the report exhibits the influence of the Rand's call for emphasis on ground reconnaissance in offensive operations. Task force scout platoons are now equipped with different and more vehicles, improved navigation and communications systems, and enhanced night observation capability. The Army's branch schools most concerned with the issue, the Armor School, the Infantry School, and the Intelligence School, now reflect the renewed emphasis and interest on reconnaissance brought about by the Rand study.

These achievements would appear to have solved any weaknesses in the doctrinal, organizational, and training issues surrounding task force reconnaissance. Yet the trend in reconnaissance at the National Training Center has been anything but a success story. Neither reconnaissance nor mission accomplishment has improved since the report was issued in 1987. Given the scope and extent of the changes made, the continued inadequacy of task force reconnaissance indicates that other causes are at work. Trends identified by Rand, as well as those left unexplored, will be examined for further insight and solutions.

II. THE 1987 RAND STUDY

Initiated by growing Army concerns about the failure of reconnaissance at the task force level, the Rand Corporation began its study of the problem in 1985 at the National Training Center. After confirming the existence of a problem in reconnaissance, Rand researched the Army's doctrine, training and organization for reconnaissance to determine the nature and source of the problems it had identified at the National Training Center. In 1987, Rand published findings which became a source for rather fundamental change in the U.S. Army's approach to reconnaissance.

The Study

Rand selected the National Training Center at Fort Irwin, California, for the study because its near-combat environment and the thorough recording of results that produce a consistent and reliable data base. Rand based the majority of its conclusions on data gathered from the National Training Center Take Home Packets of 17 Task Forces over 11 training rotations. A Take Home Packet contains the unit mission statement, a narrative summary of the battle, specific unit findings, and casualty statistics. Rand also conducted interviews and reviewed U.S. Army reconnaissance

doctrine and training to attempt to find causes for failures
noted at the National Training Center.

The Rand Corporation studied only offensive missions,
a choice made because offensive operations require units to
actively seek information about the enemy through
reconnaissance. Rand concluded that the defender's task is
primarily preventing the enemy from gathering information
and that reconnaissance can only begin once the battle
begins.[2]

The means Rand selected to collect information on task
force and reconnaissance success was the Take Home Packet.
A collection of assessments by training center observers,
the Take Home Packet records the collective judgement of the
National Training Center on the detailed issues and lessons
learned for each training unit. Rand determined that a
successful attack was accomplishment of the task force
mission, with some coherent combat power remaining, and a
combat ineffective enemy. If both forces were no longer
combat effective at the conclusion of the battle, Rand
listed it a "standoff". Developing criteria for a
successful reconnaissance proved more difficult. Observer
comments were used, but the study viewed the results in
isolation, rather than as part of the overall intelligence
system. This prevented other failures in the system (e.g.
failure to act on reports, misinterpretation of reports)
from distorting reconnaissance data.[3]

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Rand also employed data collection cards completed by Observer/Controllers, and interviews of experienced observers and participants involved in the training process at the National Training Center.[4] This additional information supported Rand's conclusions but developed no new, significant findings. Rand's conclusions were based almost exclusively on statistical analysis of each rotation's Take Home Packet. If not wholly objective, it did provide the best available basis for assessing outcomes.

Rand's Findings

Reviewing the Take Home Packets qualitatively and then statistically, Rand discerned several disturbing trends in task force reconnaissance. Rand first found that 79% of scout missions failed. The battlefield information required by the commander to defeat the enemy was not collected, indicating a problem of significant magnitude. The next consideration was how this affected the task force mission.

By comparing mission success against the quality of the task force reconnaissance effort, Rand discovered that 69% of task force missions were successful when reconnaissance was successful. Conversely, and perhaps more significantly, only 8% of task force missions succeeded when reconnaissance failed. These facts identified not only the existence of a problem, but the consequences to the mission when reconnaissance was not successful.

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1987 Battle Result Based on Reconnaissance Success[5]

Recon Status		Battle Outcome		
		Success	Failure	Standoff
Good	13	9	1	3
Poor	50	4	38	8
Unclear	14	4	4	6

In an effort to explain this finding, Rand studied three aspects of task force-level reconnaissance: Doctrine, Training, and Equipment. Each of these was reviewed in its relationship to the task force reconnaissance and surveillance process, with obvious emphasis on the scout platoon. Rand's selection and treatment of these factors would also shaped the recommendations of the study and the direction that tactical reconnaissance would take.

Doctrine

The Rand Corporation's review of Army doctrine was an indispensable first step because neither training nor equipment can be studied without first considering the underlying doctrine. Rand evaluated Army Field Manuals dealing with scout platoon operations, task force and brigade intelligence operations, task force operations manuals, and cavalry manuals. Rand found that doctrine related to reconnaissance inadequately addressed task force requirements. The importance of reconnaissance to the

mission was not emphasized. Intelligence functions, and particularly reconnaissance, essentially ignored offensive operations. Manuals also lacked detailed guidance on how to accomplish reconnaissance planning and execution.

Rand reviewed Field Manual 71-2J (Coordinating Draft) The Tank and Mechanized Infantry Task Force, (December 1984), which stated the scout platoon mission as reconnaissance and security, but included only three reconnaissance-related tasks out of the thirteen it listed. This created the impression that reconnaissance was only one of many scout platoon tasks and not clearly the primary mission.[6] Given the high correlation between successful reconnaissance and the task force mission, the missing emphasis was a significant flaw in the way the Army viewed reconnaissance at the task force level.

Field Manual 71-2J also lacked consideration of reconnaissance and Intelligence Preparation of the Battlefield in offensive situations. Intelligence Preparation of the Battlefield (IPB) analyzes the terrain, weather, and enemy to determine the enemy's possible courses of action. Properly done, IPB provides the unit with a variety of possibilities which it must then confirm or deny through reconnaissance. The defensive orientation of this manual slighted the importance of reconnaissance to offensive situations.[7] While perhaps a reflection of Army doctrine at the time of its writing, it was nevertheless

incompatible with the missions encountered at the National Training Center.

Rand found that Field Manual 17-98 (Test) <u>The Army 86 Scout Platoon</u> oriented on gaining and maintaining contact with the enemy rather than conducting reconnaissance. It did this by neglecting the primacy of reconnaissance and combining scout and cavalry operations in the same publication. Acknowledging that the next draft of this manual would improve emphasis on reconnaissance, Rand argued that discussing cavalry and scout operations in the same manual confused the roles played by each.[8]

Rand also examined the primary brigade-level operations manual, Field Manual 71-3, <u>The Armor and Mechanized Infantry Brigade</u>. Rand noted that the manual did not address the brigade's responsibility in reconnaissance planning. This indicated a doctrinal gap in defining the brigade's reconnaissance role and the relationship of reconnaissance to brigade-level decision-making.[9] In Rand's view, brigades had been removed from the reconnaissance process.

Intelligence-specific publications were also evaluated for their guidance on task force operations. Rand found insufficient detail in Field Manual 34-80, <u>Brigade and Battalion Intelligence and Electronic Warfare Operations</u>, to develop reconnaissance and surveillance plans. It also overlooked offensively oriented IPB. As the primary manual

for brigade and battalion intelligence procedures, it provided little practical guidance on reconnaissance.[10]

Training

Having found notable shortcomings in doctrine, Rand next reviewed the Army's ability to train key leaders for their role in the reconnaissance process. In evaluating the Army's formal and unit training, Rand discovered that battalion commanders, S3s (Operations Officer), S2 (Intelligence Officer), and scout platoon leaders were poorly prepared to supervise and conduct reconnaissance. This finding was supported by interviews with unit leaders at the National Training Center and a review of instruction at the Infantry, Armor, and Military Intelligence schools.[11]

Battalion Scout Platoon Leaders were all graduates of the Infantry or Armor Officer Basic Courses. The Armor Basic Course in 1987 provided only four hours of instruction on threat, three on information reporting, and sixteen on cavalry platoon operations. Noting that only a few of the their graduates would eventually become scout platoon leaders, Rand determined that schools did not, and probably should not, prepare lieutenants to become scout platoon leaders.

Training within units was equally difficult. Battalion commanders and S3s received limited intelligence

and reconnaissance training in either the Infantry or Armor Officer Advance Courses. Virtually nothing in the Command and General Staff Officers Course or the battalion pre-command courses prepared senior task force leaders to deal with reconnaissance. This meant that few, if any, of the officers responsible for training the scout platoon leader - the battalion commander, S3, and headquarters company commander - were likely to have had scout experience or training.[12] The opportunity for the scout platoon leader to gain knowledge in the unit was therefore small and could not be counted on to produce results.

In analyzing the intelligence portion of reconnaissance, Rand observed that task force S2 positions were filled with Military Intelligence captains only 71% of the time. This left a significant number of lieutenants responsible for task force intelligence operations. Because the Military Intelligence Officer Basic Course provided no specific reconnaissance training to these less experienced officers, Rand surmised that the direction of task force reconnaissance efforts suffered as a result.[13]

Equipment

Having exposed significant issues in doctrine and training, Rand next examined how scout platoons were equipped to conduct reconnaissance. Although primarily concerned with the scout reconnaissance vehicle, it also

briefly dealt with communications and other supporting equipment. Rand concluded that equipment problems appeared to contribute to reconnaissance failure at the National Training Center.

The scout platoons of 1987 were composed of either three M113s (armored personnel carrier) and three Improved Tow Vehicles (ITV), or in modernized platoons, six M3s (Cavalry Fighting Vehicle). Rand determined that these vehicles were not well suited to the scout platoon mission. The most significant problem was that the M3 and ITV both possessed more firepower than was necessary for the scout platoon to employ. The implication was that scouts tended to use the firepower, even when avoiding contact would better accomplish the mission. The M3 Cavalry Fighting Vehicle was also noted as having too few seats to accommodate attached elements, such as engineers or forward observers.

The second problem noted was that all three tracked vehicles were too noisy to avoid detection by enemy forces. In this respect, Rand also studied the experience of the Opposing Forces (OPFOR), and proposed that much of its reconnaissance success against rotational units could be attributed to its quieter scout wheeled vehicles (High Mobility Multi-purpose Wheeled Vehicle or HMMWV).[14]

Rand's conclusions were inevitable. Armored vehicles were too noisy and possessed excessive firepower. The OPFOR

enjoyed exceptional success with wheeled vehicles at the
National Training Center. Based on this line of reasoning,
the HMMWV was the best available reconnaissance platform for
task force scouts. Rand did acknowledge that the HMMWV
suffered from a lack of armor protection and firepower, but
these shortcomings did not appear to invalidate its use in
that role.[15]

Summary

Rand discovered that task force reconnaissance failed
remarkably often and that this resulted in task force
mission failure. Rand found a variety of reasons for this
failure. Rand provided a rather tenuous cause-and-effect
relationship between a statistically derived problem and
their researchers' subjective assessment of doctrine,
training and equipment. Rand had also made its conclusions
without considering the inherent artificialities of
simulated combat at the National Training Center. Despite
these flaws, it was an important beginning. From these
findings, Rand developed a series of recommendations that
would significantly change the way the Army conducted ground
reconnaissance.

III. CHANGES MADE SINCE THE RAND STUDY

Having identified several significant problems, the Rand study offered a wide assortment of recommendations. Chief among Rand's solutions was to adjust Army doctrine to provide greater emphasis and detail in reconnaissance planning and execution. Rand also suggested that the Army's training system needed to offer additional training to key officers involved in the reconnaissance process. Its review likewise suggested that scout platoons required a significantly different equipment configuration to overcome identified inadequacies.

Doctrine

Rand observed that doctrinal manuals needed to emphasize the role of reconnaissance in the attack, provide guidance on the use of other assets to augment the efforts of the scouts, and add specificity on how to conduct IPB and reconnaissance planning. The thrust of Rand's observations was not that doctrine in 1987 was wrong, but rather that it was poorly articulated.[16] Nearly all of Rand's recommendations found their way into Army Field Manuals.

Rand criticized Field Manual 71-2J, The Tank and Mechanized Infantry Task Force, for its lack of offensive orientation and guidance on reconnaissance. The approved

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revision of FM 71-2J, FM 71-2, now contains a section which begins with the title "Offensive IPB and Reconnaissance", indicating the Army's shift away from defense-oriented intelligence operations at the task force level.[17] The manual continues on ensuing pages to discuss planning responsibilities and the use of assets other than scouts to assist in the reconnaissance effort. The stress on reconnaissance Rand found lacking in FM 71-2J is unmistakably emphasized in FM 71-2.

Rand found that the Army's scout platoon level manual, FM 17-98, confused the role of the scout platoon with that of cavalry. While the current manual still speaks to both scout platoons and cavalry units, now emphatically states that reconnaissance is the primary mission of all scout elements. Following this rationale, the manual now emphasizes stealth and de-emphasizes the use of scouts in combat-type roles when not augmented by combat forces.[18]

Field Manual 17-98-1, Scout Leader's Handbook, provides the tactics and techniques manual sought by Rand's suggestion of a "how to" textbook. This publication, a companion to Field Manual 17-98, includes detailed techniques for command and control of scout elements, threat doctrine, fire support, scouting techniques, navigation, communications, demolitions and obstacles, as well as data

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on U.S. and Allied equipment. Scout platoons now possess the tools recommended by Rand to conduct reconnaissance.

Field Manual 71-3, Armored and Mechanized Infantry Brigade, now specifies the brigade's role in reconnaissance operations. It addresses Rand's finding that reconnaissance does not receive doctrinal emphasis by stating that reconnaissance is essential to brigade planning and execution.[19] This also answers Rand's concern that the brigade's role in reconnaissance did not complement the task force's. The doctrinal gap Rand identified as an inhibiting factor has been filled at the brigade level.

Beyond the changes recommended by Rand, the Army created and updated other reconnaissance-related manuals since the Rand report. They include Field Manual 34-2-1 Reconnaissance and Surveillance and Intelligence Support to Counterreconnaissance (June 1991), Field Manual 34-8 Combat Commander's Handbook on Intelligence (September 1992), and an extensively revised Field Manual 34-130 Intelligence Preparation of the Battlefield (May 1989 and July 1994).

Field Manual 34-2-1 provides techniques and procedures for the production of reconnaissance and surveillance plans. Designed for unit intelligence officers, the manual furnishes detailed guidance on how to develop intelligence requirements and use unit assets to answer those needs. It also discusses reconnaissance and the planning process, Intelligence Preparation of the Battlefield, and how to plan

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reconnaissance operations. At the time of the Rand report, no manual or combination of manuals supplied this level of detail for intelligence staffs to conduct reconnaissance planning.

Field Manual 34-8 is a handbook for combat arms commanders that explains what to expect from S2s and the intelligence system. It covers in general terms the intelligence assets available to commanders; the role of the S2, S3, and commander in determining intelligence requirements; and the process for tasking assets to answer those needs within the decision-making process. While not entirely solving the absence of formal training of senior task force officers, it does provide a concise guide to tactical intelligence operations.

Field Manual 34-130 published in May 1989 eliminated the defensive orientation noted by Rand, focusing instead on Intelligence Preparation of the Battlefield for a wide range of conventional operations. Revised again in 1994, the manual now includes techniques for conventional operations, unconventional operations, and operations other than war. This implemented the Rand recommendation that Intelligence Preparation of the Battlefield (the basis for reconnaissance planning) not limit itself to defensive operations. The Army's emphasis on reconnaissance is now definitively reflected in its doctrine.

Training

The effects of Rand's recommendations can also be seen in current institutional training programs. Rand found the Officer Basic Courses attended by prospective S2s and scouts to be inadequate. Professional schooling for commanders and S3s likewise provided insufficient reconnaissance training. Rand recommended that schools be established specifically for scout platoon leaders and battalion S2s.[20] As a result, Army schools have undergone significant change to accommodate the increased emphasis on reconnaissance.

Fort Huachuca has restructured the Intelligence Officer Basic and Officer Advance Courses to reflect a much greater tactical emphasis. While no S2-specific school has been established, the officer advance course now entails a 143 hour Brigade Operations and Intelligence block of instruction and practical exercises dedicated to developing intelligence requirements, managing the collection effort, and developing plans for intelligence collection. Reconnaissance is further reinforced in 150 additional hours of instruction on the intelligence system from the battalion to the joint level. This section also provides significant training in asset planning, tasking, and integration.[21] Combined with the fact that 92% of S2 positions now are filled with captains, of whom 90% are advance course graduates, task force S2s are far better trained and more experienced than those of the Rand study period.[22]

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Addressing the small numbers of battalion S2s who are lieutenants, the Military Intelligence officer basic course also now specifically addresses reconnaissance and surveillance training in its current form. The new curriculum includes 85 hours of tactical intelligence operations, collection assets, reconnaissance and surveillance planning process, orders to collection assets, and the command estimate and decision process. Both the basic and advance courses culminate in tactical exercises, providing hands-on experience for prospective S2s in the area of reconnaissance planning.[23]

In 1987 Rand found that no specific reconnaissance training was provided to scout platoon leaders. The Armor Officer Basic Course now allocates 18 hours of instruction on reconnaissance fundamentals.[24] The current Infantry Officer Basic Course contains no specific instruction on reconnaissance, but does incorporate considerable training in patrolling techniques, to include 89.5 hours in a movement and security situational training exercise and 2 hours in an infiltration exercise.[25] The infantry course reflects no meaningful change from the Rand findings, while the armor course has substantially improved.

Fort Knox also now conducts a Scout Leader's Course. Although originally created for scout platoon leaders, due to fiscal constraints it now trains only officers assigned to cavalry units. To answer non-cavalry requirements, the

Armor Officer Basic Course curriculum offers more focused reconnaissance course work.[26] While perhaps not as dramatic as the changes made in doctrine, Army training undoubtedly reflects a new emphasis on reconnaissance at the task force level.

Equipment

The Rand study suggested that the M3 Cavalry Fighting Vehicle be replaced by the M2 Infantry Fighting Vehicle, to provide more space to transport troops and equipment.[27] Rand further recommended that two HMMWVs be added to the scout platoon to take advantage their lower profile and reduced noise. It was clear from Rand's analysis that a scout platoon composed entirely of HMMWVs was viewed as a viable alternative. This finding was later echoed by a TRADOC assessment team, which noted that "TF scouts envy the OPFOR scouts who operate in HMMWVS".[28]

Rand also recommended that scouts be provided with radio relay equipment to solve communication problems often experienced at the National Training Center when scouts are deployed well forward of the task force. Rand further noted that scouts did not possess sufficient night-vision devices and position locating equipment to move effectively and report accurately at night.[29]

Scout platoon equipment has undergone substantial change since 1987. At the time of the study, scout platoons

consisted of six tracked vehicles (normally M113 and ITV).
Modernized units consisted of six Bradley fighting
vehicles.[30] Current scout platoons consist of ten
ballistically protected HMMWVs, similar to the type
recommended in the report. Scouts also have the newer
generation, frequency-hopping SINCGARS radio, offering
improved range, reliability, and security. Each scout team
possesses several thermal and image intensifying night
observation devices. Satellite position locating systems
are also now found at the team level, as are laser range
finders.[31] The changes made to the organization of the
scout platoons have been significant, meeting all of Rand's
recommendations, as well as some not addressed in the study.

Summary

As a result of the Rand Corporation's detailed study
and recommendations, the Army has made significant changes
in doctrine, training, and equipment in an attempt to
rectify problems in accomplishing reconnaissance. Army
doctrine now places vastly more emphasis on reconnaissance.
Personnel involved in reconnaissance are better trained and
equipped than ever before. These improvements should have
resulted in a profound improvement in performance. In order
to measure the impact of these changes, it is necessary to
compare the current performance of task forces and their

scout platoons to those of 1987. The result should indicate

any problems remaining, as well as possible solutions.

IV. <u>CURRENT PERFORMANCE AT THE NATIONAL</u>

<u>TRAINING CENTER</u>

Rand reported in 1987 that reconnaissance at the task force level consistently failed to support the mission of the task force. Using a similar statistical approach to assessing scout performance at the National Training Center, recent study reveals that successful reconnaissance is as elusive now as in 1987. These results also show that this failure is no less damaging to the task force mission.

Because some of the original methods, which included the use of field data cards and researcher observation of unit training, cannot be replicated without extensive field research, the Take Home Packet is the basis for data collection on recent training rotations. As this was also the foundation for Rand's statistical analysis, the current study should provide a useful basis for comparison.

The current data is derived from National Training Center rotations 93-09 (Fiscal Year 93) through 94-07 (Fiscal Years 94), encompassing 11 rotations and 65 offensive missions. Changes in performance trends will be reviewed against the background of recommendations implemented after the study. Performance will be statistically and qualitatively analyzed for recommendations

not implemented or improvements not considered in the original study.

Criteria for assessing the success or failure of a mission is, like the original Rand study, based on Observer/Controller comments found in Take Home Packets. Generally the outcome is clearly stated ("the unit successfully accomplished the mission"), although in some cases it must be gleaned from the narrative description of the battle or comparison of the mission statement to the actual end state. While interpretative decisions were few, some were required.

Recent training rotations reveal that reconnaissance continues to affect the outcome of task force offensive missions. The current study confirms that not only does successful reconnaissance improve a unit's chance of successfully completing the mission, but reconnaissance failure predicts an exceedingly small chance of attacking successfully.

Recent Battle Result Based on Reconnaissance Success

Recon Result		Battle Outcome			
		Success	Failure	Standoff	%Success
Good	17	8	8	1	47%
Poor	41	3	35	3	7%
Unclear	7	0	6	1	

1987 Battle Result Based on Reconnaissance Success[32]

Recon Result		Battle Outcome			
		Success	Failure	Standoff	%Success
Good	13	9	1	3	69%
Poor	50	4	38	8	8%
Unclear	14	4	4	6	

This data also demonstrates that reconnaissance missions succeed 29% of the time, as compared with 21% in 1987. Very little has changed in the ability of task forces to conduct reconnaissance.

Doctrine

Doctrinal solutions have been implemented without appreciable effect on the level of success of reconnaissance missions; reconnaissance missions continue to fail at about the same rate as in 1987. This is not evidence that the doctrine has failed, but rather that this solution, in concert with training and equipment modifications, has failed to produce the intended result - successful reconnaissance. A further look at doctrine is called for in understanding this continued lack of success.

Manuals for scouts now stress stealth and reaction to contact, concepts appropriate both to the Rand findings and the current organization of scout platoons. Army Field Manual 17-98, Scout Platoon, written prior to adoption of

wheeled scout platoons, states that scouts must be able to accomplish their mission "By seeing the enemy first and by observing undetected...". To supplement this emphasis, each of _Fundamentals of Movement_ found in FM 17-98 addresses maneuver only in terms of avoiding detection.[33] If this is true of tracked scout platoons, it is no less the case in those with HMMWVs. Field Manual 34-2-1 goes still further by stating that "... good reconnaissance uses stealth to avoid detection."[34]

While useful for the individual movement of scout elements, avoiding contact has a negative aim. The purpose of reconnaissance is to develop information about the enemy. To do this scouts must move in areas occupied and defended by the enemy. Although contact is undesirable, under these conditions it is likely to be unavoidable. Stealth can scarcely be considered a concept for planning reconnaissance missions. It relies not only on the scout platoon's actions (stealth), but on the enemy's inability to fulfill his own mission (counterreconnaissance).

A second problem encountered is that publications address reconnaissance planning as purely an intelligence function. Current task force and intelligence manuals stress information collection while ignoring the more difficult challenge of maneuvering to penetrate enemy screens and defenses without losing most or all of a limited asset. When viewed solely as an intelligence function,

scout platoons are well-focused on the purpose of the mission, but ill-prepared to conduct it.

Of the doctrinal publications available, only Field Manual 17-98 clearly ties the S3 to the role of providing orders to the scout platoon and synchronizing its activities with the battalion's overall mission. While this manual emphasizes the scout's support of the task force mission, it fails to address any task force responsibility to support the scout platoon. The task of planning and execution continues to rest solely with the scout platoon.

Field Manual 34-2-1 discusses staff input to reconnaissance and surveillance planning, but fails to address the actual conduct of the mission. Likewise, Field Manual 71-2 treats reconnaissance as an intelligence process, rather than a tactical mission. "Reconnaissance and surveillance operations are planned by the S2 and coordinated with the S3 to confirm or deny the S2's templating."[35] This description of reconnaissance addresses why the mission is conducted, but not how.

Training

The training provided to key leaders is equal to, and in most cases superior to, that of 1987. Battalion S2s and scout platoon leaders are now better prepared by the Army to plan and execute reconnaissance operations than those of the Rand study period. The emphasis in doctrine and the

creation of "how to" publications has added significantly to the materials available to train officers in both the formal and unit settings.

Equipment

There have been considerable equipment changes since the Rand study. Despite the findings of the study and changes already implemented, this area of scout platoon operations has remained the most contentious. The debate centers around the lack of armor protection and firepower of the current HMMWV-equipped scout platoon, calling into question its ability to survive outside of the training environment.

In the study of recent rotations, scouts lost half or more of their reconnaissance teams in 54% of all reconnaissance missions. Overwhelmingly the cause of destruction was enemy direct fire (58%). Enemy air attacks accounted for 10% of scout team destruction, while chemical agents (7.3%), friendly and enemy obstacles (6.2%) and enemy indirect fire (4.6%) destroyed most of the remaining scout teams. These figures do not account for time and information lost during casualty evacuation or evasion of enemy forces.

The Center for Army Lessons Learned (CALL) found that after the Army had converted to HMMWV-only scouts, only 13% of ground combat units used HMMWV-only platoons in Operation

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Desert Storm. The remaining 87% used either all tracks or a combination of HHMWVs and tracks. Scouts mounted in HMMWVs were too vulnerable to direct fire, indirect fire, and mines and unexploded ordnance. "While critical in its utility role, the HMMWV proved largely unsuitable for operations forward on the battlefield."[36]

Conversely, a CALL lethality study at the National Training Center concluded that there was virtually no difference in scout losses between units equipped with HMMWV and those in tracked vehicles. The quietness of the HMMWV apparently compensated for its lack of armor protection and armament. Although this has not been verified by wartime data, it is true for the environment in which the Rand report was generated.[37]

The debate over the proper scout vehicle is by no means concluded. The central issue continues to be the balance between stealth, protection, firepower (to disengage or self-protect), and, in some measure, cost. The issue is further complicated by the fact that the National Training Center portrays an enemy with consistent doctrine and equipment, while scout platoons must be prepared to operate in varied geographic and threat environment. Finally, as the Desert Storm data indicates, the National Training Center cannot simulate the threat to life faced in wartime.

The training casualty figures and equipment changes made by units during Desert Storm do indicate that some form

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of improved protection is required for scouts, although the CALL study also shows that vehicle type alone may not completely address the issue. Short of further equipment modifications, other solutions may be called for.

There is another factor not considered in the Rand report - the impact of planning on the eventual outcome of reconnaissance missions. While it was important at the time of the Rand study to analyze doctrine, training, and equipment, the underline employment of assets, the step where all of these elements are combined, was not evaluated. It is perhaps here that the cause of continued failure lies.

Employment factors which may have affected reconnaissance outcomes include the quality of the S2's Intelligence Preparation of the Battlefield, the quality of the battalion reconnaissance and surveillance plan (normally prepared by the S2), and the overall quality of the battalion's plan for accomplishing the offensive mission.

Intelligence Preparation of the Battlefield

Intelligence Preparation of the Battlefield, in the offense, depicts where and how the enemy may fight based on terrain, weather, and the enemy's doctrine and tactics. One would expect that the more accurate the estimate of the enemy's activity and intentions, the better the level of success of the scout platoon in confirming that estimate. Based on analysis of recent rotations, however, Intelligence

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Preparation of the Battlefield appears to have only marginal impact on the success of reconnaissance activity.

Reconnaissance Success Based on Quality of IPB

Recon Result		IPB Quality		%Recon/ IPB Success
		Good	Poor	
Good	17	7	10	41%
Poor	41	14	27	34%
Unclear	7	4	3	

Reconnaissance and Surveillance Planning

Reconnaissance and surveillance plans are primarily concerned with what information to collect and where that information may be found. They do not provide a scheme of maneuver for the scout platoon, but rather a collection plan for which the scout platoon leader then plans the operation. Given its collection orientation, it is not surprising that the quality of reconnaissance and surveillance planning has little impact on the success of reconnaissance.

Reconnaissance Success Based on Quality of R&S Plans

Recon Result		R&S Plan Quality			%Recon and R&S Success
		Good	Poor	Unclear	
Good	17	5	12	0	29%
Poor	41	12	27	2	29%
Unclear	7	0	1	6	

Task Force Planning

Next, the quality of the task force plan is analyzed to determine its impact on task force mission. As one would expect, there is a significant statistical correlation between the quality of a battalion plan and the level of mission success.

Recent Battle Result Based on Quality of Task Force Planning

TF Plan		Battle Outcome			
		Success	Failure	Standoff	%Success
Good	16	9	7	0	56%
Poor	49	2	43	4	4%

The final step is to identify any link between the quality of the task force plan and the success of the reconnaissance operation. This link would exist for several reasons. First, the quality of the overall mission is likely to be an indicator of thorough planning in all aspects of the task force mission, including the intelligence operating system. Second, a high quality plan would be more likely to have well-defined information requirements to support it. Third, higher quality planning is indicative of a well-trained staff, better able to integrate all battlefield operating systems in support of the reconnaissance effort. Statistically the quality of

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task force planning appears to play a far greater role in reconnaissance success than any other single factor.

Reconnaissance Result Based on Quality of Task Force Planning

TF Plan		Recon Outcome			
		Success	Failure	Unclear	%Success
Good	16	12	4	0	75%
Poor	49	5	37	7	10%

Thus far lessons learned and studies have examined only symptoms without addressing causes. They fail to address the most likely reason for reconnaissance failure - poor planning. The solution then may lie not simply with "structural" issues such as doctrine and organization. The predominant cause may instead be a failure to adequately plan reconnaissance missions and to subsequently synchronize supporting assets.

V. CONCLUSIONS

Conclusions are far from simple. Because it is interaction of doctrine, organization, and training that determines success, rather than each in isolation, the employment of scouts must be analyzed within the framework of all three. Previous studies and discussions have focused on one or more of these but few have considered the integrating step - employment. It is clear that improved planning and coordination of the reconnaissance effort is indicated as an important part of the solution.

Most of the doctrinal changes proposed by the Rand Corporation were worthwhile. In addition to clarifying Army reconnaissance philosophy, several new manuals were produced which greatly improved the level of detailed guidance available to scout platoons, commanders, and staff in planning and executing reconnaissance operations. Despite this rather fundamental approach, Rand, and the Army, continued to view reconnaissance as an intelligence operation rather than as a combat mission performed for the purpose of collecting intelligence.

Equipment changes show the level of interest and thought that has surrounded this topic, it remains controversial. Doctrine and Take Home Packets now stress stealth as the principal means for scouts to survive and

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accomplish their mission. Scouts must maneuver in ways that avoid the enemy and the enemy must in turn fail to accomplish his mission of preventing reconnaissance. In relying solely on stealth, current organization and doctrine surrender a portion of the scout's initiative to the enemy. For example, the scout platoon cannot reconnoiter the task force's attack axis if the possibility of contact with the enemy is sufficiently high. This restriction limits both the scout's and task force commander's options in collecting combat information.

Training is clearly better and will undoubtedly pay dividends. A greater percentage of task force S2s are now graduates of both the officer advance and basic courses. All courses training key leaders now offer more reconnaissance-oriented instruction. Armor officers now receive more basic reconnaissance and surveillance training, even if not universally afforded the opportunity to attend scout-specific training.

With the improvements and adjustments made in task forces' equipment, doctrine, and training, the fact remains that reconnaissance is as unsuccessful as it was during the 1987 Rand Study. A closer look at scout platoon employment may attack the primary cause of this deficiency.

In offensive operations, the scout platoon operates out of range of task force direct fire support (and often indirect fire support as well), and almost by definition

within the range of enemy direct and indirect fires. This places the scout platoon in an exceptionally hazardous position without the support of friendly forces. Possessing virtually no firepower or armor protection, scouts are required to penetrate enemy screens and defenses by avoiding the enemy, and detect and report enemy activity. It is not difficult to see why reconnaissance success is hard to achieve.

The scout platoon leader, responsible for this difficult mission, is among the least experienced separate unit leaders in a task force. Even with additional schooling and sufficient handbooks, it is doubtful that he possesses the expertise to successfully plan and execute a complex movement in enemy-held terrain. This deficiency is compounded by the fact that current doctrine does not define a clear role for the battalion staff in planning, coordinating, and supervising the execution of the battalion's reconnaissance operation. Battalion S2s and S3s are only charged with insuring that the information collected by the scout platoon supports the task force mission. Without greater staff support and coordination, it is doubtful that reconnaissance can succeed consistently.

The Rand report, along with many Army publications, recognized the inability of the scout platoon to execute this mission unassisted. The solution offered in the Rand study, Army manuals, and Take Home Packets has been to

augment the scout platoon with engineers, mortars, air defense, ground surveillance radars, forward observers, and even forward air controllers. While vastly increasing the size and diversity of the platoon, there is no evidence from the current study that augmented scout platoons are more successful than those without augmentation.

This becomes clearer if one compares a reconnaissance mission to a task force deliberate breach operation. The fact that a task force has an engineer company does not result in the task force giving the engineers the task force breach mission. Responsibility to plan, coordinate, and supervise execution remains with the task force. Augmenting a maneuver company with engineers and other support elements and assigning it the entire breach mission would be equally inappropriate. Like a deliberate breach, the task force reconnaissance mission is a complex and difficult mission, and requires the full support and coordination of the task force staff.

The Army Training Board White Paper on reconnaissance recognized this issue. It found that staffs were not sufficiently knowledgeable about scout platoon operations, creating a condition that "translates into staff planning which provides inadequate augmentation of the scout platoon, assignment of impractical missions, poor combat service support, and poor unit training programs."[38]

While augmentation might appear to provide the scout platoon with greater capability, it is just as likely, given the command and control structure of the platoon, that it instead overwhelms the platoon leader. The platoon leader is now given the additional task of planning the movement, support, and employment of a wide range of non-organic elements. Adding capabilities beyond the platoon's ability to employ them fails to accomplish the intent of the augmentation.

To provide the scout platoon improved capability without additional burden on the platoon, the battalion must conduct the reconnaissance mission. Control and synchronization by the battalion reduces the platoon leader's span of control, while improving the level of support. This approach is hinted at in the White Paper which states that reconnaissance needs to be planned in the same detail and requires the same "coordinated efforts of several task force assets" as operations in the main battle area.[39] The TRADOC assessment team suggested in 1987 that "A reconnaissance operation requires task organization, integration of combat support and service support, and the synchronization of maneuver with fire support".[40]

Ground surveillance radars (GSR) are habitually attached to scout platoons, but this is often unnecessary. GSR employment can be planned and controlled by the task force, further reducing the platoon's span of control and

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planning requirements. Task forces can use GSRs to secure the flanks of the scouts and collect information on enemy countereconnaissance operations. Performing this function requires planning and control by the battalion; the scout need not own the asset to receive the benefit of its employment.

Fire support must be planned and coordinated specifically in support of the scout mission. Simply providing a copy of the task force fire plan for the attack is unlikely to support an infiltration where the routes will often differ from attack axes and enemy elements are likely to be deployed in small, mobile groups. At the task force and company levels, fire planning is coordinated by the task force Fire Support Officer (FSO) and Fire Support Team respectively. These elements are not found in scout platoons, leaving the platoon leader to conduct planning for which battalion and company commanders receive specialized assistance. The usual solution is to attach mortars to the scouts. This provides fire support, but burdens the scout platoon with fire planning and command and control responsibilities.

The highest percentage of scout casualties result from enemy direct fire engagement. Based on analysis of the threat to the scout platoon, the battalion must consider supporting the penetration of enemy screens or defenses. This can be accomplished through use of task force

controlled combat elements to destroy or engage enemy counterreconnaissance forces. Because scouts now lack firepower, attempting to avoid enemy elements or break contact without support relies more on good fortune than method. The staff must plan and synchronize reconnaissance just as for any other tactical mission.

The entire staff must be involved in reconnaissance planning. Using the commander's information requirements, the S2 develops the reconnaissance and surveillance plan which recommends where and when to look for enemy activity that reveals the enemy's adoption of a course of action. The S2 also estimates the enemy's counterreconnaissance capabilities, probable locations, and likely courses of action.

The S3 plans the movement of the scout platoon by providing the necessary orders and control measures. The S3 also allocates and coordinates combat, combat support, and combat service support resources to accomplish the reconnaissance mission. Based on mission analysis, this might include designating a combat force to assist the scout platoon in penetrating the enemy forces. Likely enemy counterreconnaissance locations or ambush sites are located and planned for as engagement areas or objectives. Elements required to be under the platoon's control such as engineers, air defense teams and forward observers, are attached to the platoon.

The task force FSO creates a fire plan that supports the movement of the scout platoon and the commitment of combat units to engage enemy screening forces. This plan is designed to support the maneuver of the scout platoon and any supporting forces. It is likely, therefore, to vary substantially from the task force fire plan. The FSO also insures that fire support assets are available to the scouts and that all coordinating details, such as radio frequencies, fire support coordination measures, and procedures for requesting fires are provided to the platoon.

The air defense officer analyzes the mission and recommends the proper employment of air defense teams in support of the reconnaissance mission. Similarly, the battalion signal officer insures that the scout platoon is able to communicate with the task force and any supporting elements.

The operation must be rehearsed and supervised by the staff as would any other operation of this importance and difficulty. The battalion staff, the scout platoon leader, and supporting elements are essential participants. The battalion commands and controls the operation, with the scout platoon and supporting units operating on a battalion radio frequency. The battalion commander or staff synchronizes the battalion's reconnaissance effort and employs task force assets to insure its success.

The National Training Center Opposing Forces use a
similar system. The reconnaissance company commander
formulates a plan and backbriefs the regimental commander,
who wargames the plan with his staff and the reconnaissance
company commander. The regimental commander then adjusts
the plan as necessary. The OPFOR also uses BRDMs (armored
wheeled reconnaissance car) and BMPs (armored infantry
fighting vehicle), the former for stealth and the latter for
its ability to fight. According to the Rand study, the
OPFOR is inordinately successful with its more integrative
approach to reconnaissance.[41]

Reconnaissance has a demonstrable effect on the task
force's ability to successfully conduct offensive
operations. Current performance trends confirm Rand's
findings that task forces routinely fail in conducting
reconnaissance and that this is a major contributing factor
in unsuccessful task force missions. Finally, current data
indicates a strong correlation between the quality of task
force planning and the success of both the mission and the
reconnaissance effort.

Attempts to correct the deficiencies noted by Rand and
other observers have begun a process to focus the Army's
attention on reconnaissance at the task force level.
Exploring options in doctrine, training, and equipment is
important to the Army's ability to adapt and improve.
Because the measures adopted have produced only marginal

results on task force reconnaissance, another approach to the problem is called for. New thought and techniques must accompany changes in doctrine and equipment, to gain full advantage.

Execution of reconnaissance must be based on sound planning which not only directs collection toward the commander's intelligence needs, but insures the success of the reconnaissance mission itself. Simply adding capabilities to the scout platoon does not guarantee their effective application. Reconnaissance is a task force responsibility. This integrative approach to reconnaissance planning and execution provides a solution to the challenge of seeing and winning on the battlefield.

ENDNOTES

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2. Martin Goldsmith, Applying the National Training Center Experience: Tactical Reconnaissance., (Santa Monica, CA: Rand Corporation, 1987), 6.

3. Ibid., 7.

4. Ibid., 14.

5. Ibid., 9.

6. Ibid., 52.

7. Ibid., 51.

8. Ibid., 53.

9. Ibid., 50.

10. Ibid., 52.

11. Ibid., 57.

12. Ibid., 58.

13. Ibid., 58.

14. Ibid., 59.

15. Ibid., 64.

16. Ibid., 68.

17. U.S. Army, <u>Field Manual 71-2, The Tank and Mechanized Infantry Task Force</u>, (Washington D.C.: Department of the Army, May 1988), 3-19.

18. U.S. Army, <u>Field Manual 17-98, Scout Platoon</u>, (Washington D.C.: Headquarters, Department of the Army, October, 1987), 1-1.

19. U.S. Army, <u>Field Manual 71-3, Armored and Mechanized Infantry Brigade</u>, (Washington D.C.: Headquarters, Department of the Army, May 1988), 3-4.

20. Rand, 68.

21. Captain Christopher E. Hilliard, Military Intelligence Officer Advance Course Manager, Fort Huachuca, AZ, interview by author, 11 October 1994.

22. Charlotte Borghardt of Office of the Chief of Military Intelligence, Fort Huachuca, AZ, interview by author, 27 October 1994.

23. Hilliard.

24. Johnny M. Brown, Training Technician, 16th Cavalry Regiment, U.S. Army Armor School, interview by author, 11 October 1994.

25. Staff Sergeant David C. Steinberg Jr., Operations Sergeant, 2-11 Infantry Battalion, Fort Benning, GA, interview by author, 13 October 1994.

26. Brown.

27. The increase in troop carrying capacity in the M2 occurs because the M3 trades off troop space for ammunition cargo space. Rand noted that this additional ammunition capacity would be unnecessary to the scout platoon.

28. John D. Rosenberger, An Assessment of Reconnaissance and Counterreconnaissance Operations at the National Training Center - A Report on NTC Special Rotation 87-1, Submitted to Commander, Combined Arms Training Activity, (Fort Knox, KY: U.S. Army Armor School, February 1987), 16.

29. Rand, 69.

30. Ibid., 59.

31. U.S. Army, Table of Organization and Equipment 17276C000, paragraph 08 (Scout Platoon Headquarters) and paragraph 09 (Scout Section). The following equipment has been added to the armored and mechanized battalion scout platoons:

Equipment Type	Qty
Thermal Sight (AN/TVS-5)	10
Night Vision Devices - AN/PVS-5	20
- AN/UAS-11	10
- AN/PVS-4	10
- AN/PAS-7	10
- AN/PVS-7B	20
Position Locating Devices (NAVSTAR)	10
EPLRS (Position locating and reporting system)	2
Laser Range Finder	10

32. Rand, 9.

33. FM 17-98, 2-33 to 2-37. <u>Fundamentals of Movement</u> are: "Use terrain for protection", "Dismount vehicles", "Use all available cover and concealment", "Avoid skylining", "Do not move directly forward from a defilade position", "Avoid open areas", "Avoid possible kill zones"

34. U.S. Army, Field Manual 34-2-1, <u>Reconnaissance and Surveillance and Intelligence Support to Counterreconnaissance</u>, (Washington D.C.: Headquarters, Department of the Army, June 1991), 2-1.

35. FM 71-2, 3-19.

36. Center for Army Lessons Learned, Memorandum, 13 February 1992, Subject: Ten Vehicle Scout Platoon, 1.

37. U.S. Army <u>Scout Platoon Survivability Data</u>, (Fort Leavenworth, KS: Center for Army Lessons Learned, 27 July 1992), 2.

38. U.S. Army "Enhancement of Reconnaissance and Counter-Reconnaissance Techniques", <u>U.S. Army Training Board White Paper</u>, (Fort Monroe, VA: United States Army Training Board, 10 June 1987), 1.

39. Ibid., 4.

40. Rosenberger, 5.

41. Rand, 44.

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<div align="center">INTERVIEWS</div>

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